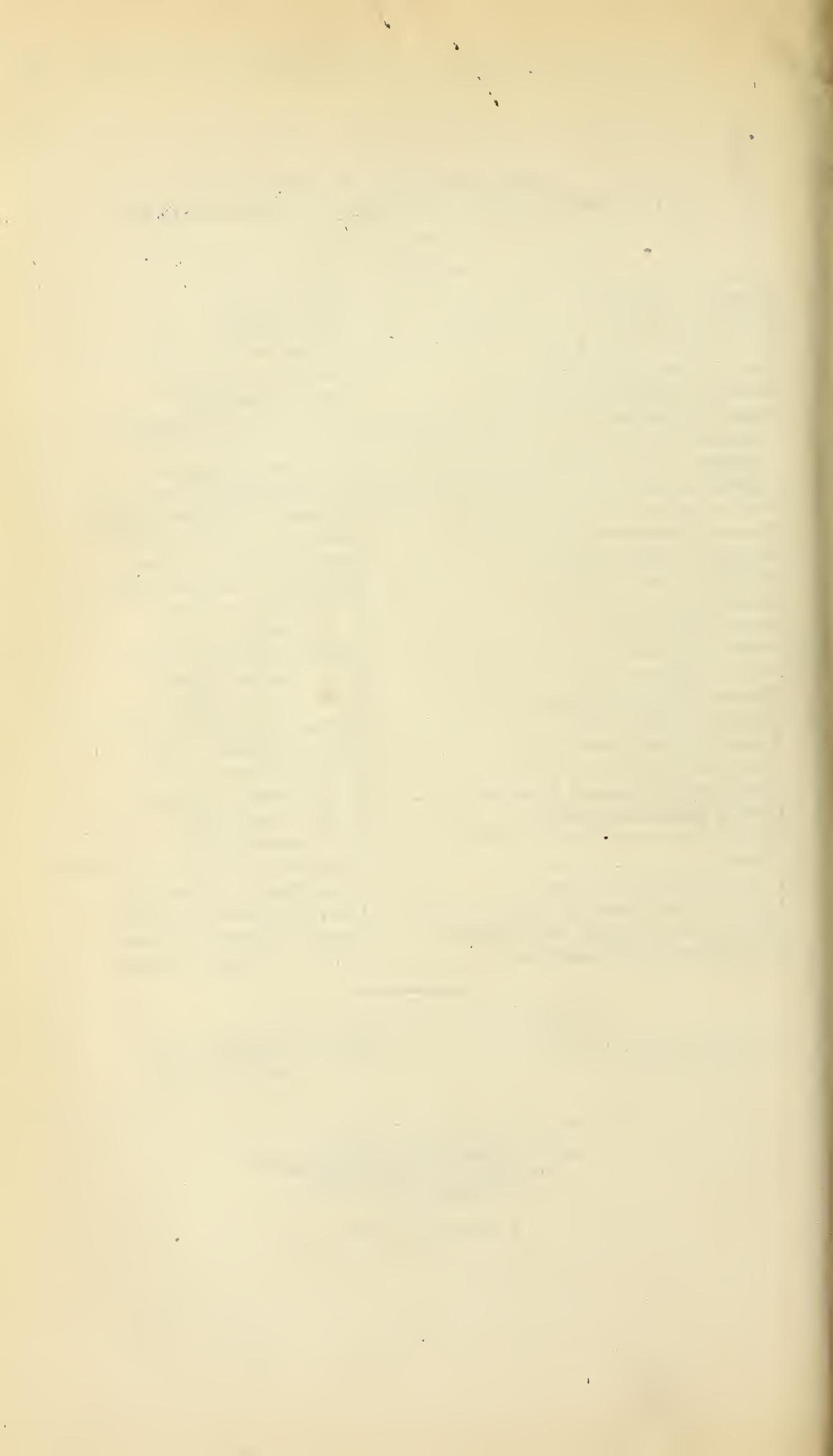


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**UNITED STATES  
DEPARTMENT OF AGRICULTURE  
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**FOOD ANIMALS AND MEAT CONSUMPTION  
IN THE UNITED STATES<sup>1</sup>**

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Editorial Office, Bureau of Animal Industry

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**TREND OF POPULATION AND LIVESTOCK, 1850-1926**

An accurate knowledge of the numbers of the different classes of domestic animals in the country is at all times a matter of interest and value to the farming and other industries concerned with livestock, as well as to many individuals. Hence it has been one of the important functions of our national census to supply this knowledge, which, until 1920, was done at 10-year intervals. The livestock population, however, from various economic causes, is subject to more or less abrupt changes from year to year, and therefore it is recognized that a count once in 10 years only is quite inadequate. Thus it happens that this important omission is filled by the United States Department of Agriculture, through its crop-reporting system, which annually estimates the numbers of livestock on the farms of the country. These estimates are made for January 1 and are published soon after that date; they also appear each year in the Yearbook. A farm census was taken in 1925.

It may be noted that the figures in Table 1 vary somewhat from the totals of the department. They are, in fact, not strictly comparable, as the department figures are for animals on farms only, whereas those in the table include the considerable fraction (as ascertained by

<sup>1</sup> This issue is a revision of and supersedes prior issues. The estimates in some cases are subject to verification or correction due to later information from census and other sources.

the census) which is not on farms. Again, the department classifies cattle into "Milk cows"—that is, cows old enough to give milk—and "All other," while in the table the cattle are subdivided into "Beef" and "Dairy," the latter, of course, including the young animals and the bulls of that type. The census figures, too, have been taken at different periods of the year and with more or less important changes in the classification of the animals. Therefore, adjustments have been made with a view to rectifying these differences and to bringing all totals to a January 1 basis.

The estimates prior to 1920 are by Sewall Wright, formerly of the Animal Husbandry Division, Bureau of Animal Industry. The later estimates are by his successor, Hugh C. McPhee. Regarding the method of computing the earlier figures, Wright made the following statement:

The estimates are made by adjustment of the census figures to a January 1 basis and to include all ages and all animals in towns, villages, and ranges as well as on farms. The estimates of the department have been used to obtain the fluctuations between census years. A method is used by means of which the ratio of the estimates in successive years for 10 years after each census is multiplied by a constant factor so as to make the tenth year agree with the next census. The estimates for dairy cattle have been obtained from those for milk cows by multiplying by 1.572—ratio of total dairy cattle to milk cows 2 years old and over in the census of 1920—this being the first census in which dairy cattle of all ages were separated from beef cattle. The estimates for beef cattle are simply the differences between the estimates for total cattle and dairy cattle. The term dairy cattle, resting as it does on the old census term "Milch cows" from 1850 to 1890, probably does not mean quite the same thing throughout. There has probably been a much greater increase in the amount of strictly dairy blood than indicated.

TABLE 1.—*Estimated total number of cattle, sheep, and swine (on farms and elsewhere) in United States, 1850–1926*

[Census and department figures adjusted to Jan. 1 of each year]

Jan. 1—	Cattle			Sheep	Swine
	Dairy	Beef	Total		
1850.....	10,100,000	14,400,000	24,500,000	29,100,000	31,200,000
1860.....	13,500,000	18,900,000	32,400,000	27,600,000	34,500,000
1867.....	12,000,000	12,600,000	24,600,000	38,100,000	28,200,000
1868.....	12,400,000	13,600,000	26,000,000	37,600,000	28,300,000
1869.....	13,000,000	14,800,000	27,800,000	36,200,000	27,600,000
1870.....	14,000,000	20,000,000	34,000,000	39,000,000	32,300,000
1871.....	14,100,000	21,000,000	35,100,000	38,900,000	36,400,000
1872.....	14,700,000	21,100,000	35,800,000	38,600,000	40,100,000
1873.....	15,400,000	20,900,000	36,300,000	40,100,000	42,100,000
1874.....	15,800,000	20,500,000	36,300,000	41,100,000	40,700,000
1875.....	16,300,000	20,400,000	36,700,000	40,800,000	37,800,000
1876.....	16,900,000	20,800,000	37,700,000	43,300,000	35,500,000
1877.....	17,400,000	22,200,000	39,600,000	43,000,000	39,500,000
1878.....	17,700,000	23,800,000	41,500,000	42,800,000	46,500,000
1879.....	18,900,000	26,400,000	45,300,000	45,500,000	51,200,000
1880.....	19,500,000	25,900,000	45,400,000	48,500,000	51,200,000
1881.....	20,100,000	24,900,000	45,000,000	51,200,000	53,100,000
1882.....	20,500,000	27,600,000	48,100,000	52,300,000	62,900,000
1883.....	21,300,000	33,400,000	54,700,000	56,600,000	60,000,000
1884.....	21,900,000	34,100,000	56,000,000	57,500,000	59,600,000
1885.....	22,600,000	34,400,000	57,000,000	56,500,000	59,300,000
1886.....	23,100,000	35,700,000	58,800,000	53,600,000	58,900,000
1887.....	23,600,000	37,900,000	61,500,000	49,100,000	55,500,000
1888.....	24,100,000	38,300,000	62,400,000	47,200,000	53,600,000
1889.....	24,900,000	38,300,000	63,200,000	45,700,000	59,200,000
1890.....	25,900,000	39,800,000	65,700,000	47,000,000	59,100,000

TABLE 1.—Estimated total number of cattle, sheep, and swine (on farms and elsewhere) in United States, 1850-1926—Continued

Jan. 1—	Cattle			Sheep	Swine
	Dairy	Beef	Total		
1891	26,100,000	40,900,000	67,000,000	46,460,000	59,400,000
1892	26,900,000	42,000,000	68,900,000	48,400,000	62,900,000
1893	27,000,000	40,500,000	67,500,000	51,300,000	56,700,000
1894	27,100,000	43,700,000	70,800,000	49,300,000	57,000,000
1895	27,300,000	41,700,000	69,000,000	46,700,000	57,000,000
1896	26,800,000	39,700,000	66,500,000	42,600,000	56,600,000
1897	26,500,000	38,700,000	65,200,000	41,300,000	55,000,000
1898	26,400,000	38,000,000	64,400,000	42,600,000	55,100,000
1899	26,800,000	37,100,000	63,900,000	44,600,000	54,900,000
1900	27,400,000	37,500,000	64,900,000	48,160,000	53,900,000
1901	26,800,000	37,700,000	64,500,000	50,400,000	55,700,000
1902	26,100,000	36,400,000	62,500,000	51,900,000	48,700,000
1903	26,300,000	35,600,000	61,900,000	53,000,000	48,000,000
1904	26,400,000	33,800,000	60,200,000	42,500,000	49,200,000
1905	26,200,000	33,300,000	59,500,000	36,800,000	50,600,000
1906	29,100,000	34,800,000	63,900,000	41,000,000	57,000,000
1907	30,300,000	37,900,000	68,200,000	42,700,000	61,300,000
1908	30,100,000	35,900,000	66,000,000	43,500,000	64,200,000
1909	30,400,000	34,400,000	64,800,000	44,300,000	63,400,000
1910	30,000,000	32,000,000	62,000,000	44,800,000	57,200,000
1911	30,200,000	30,500,000	60,700,000	45,700,000	63,700,000
1912	29,900,000	28,300,000	58,200,000	44,600,000	62,700,000
1913	29,400,000	27,400,000	56,800,000	43,700,000	57,900,000
1914	29,600,000	27,200,000	56,800,000	42,200,000	55,600,000
1915	30,300,000	28,300,000	58,600,000	42,200,000	59,600,000
1916	31,300,000	30,900,000	62,200,000	41,100,000	61,700,000
1917	32,300,000	32,600,000	64,900,000	40,200,000	60,700,000
1918	32,700,000	35,100,000	67,800,000	40,900,000	63,000,000
1919	32,800,000	36,200,000	69,000,000	41,100,000	65,300,000
1920	32,986,000	35,778,000	68,764,000	<sup>1</sup> 39,475,000	62,451,000
1921	32,957,000	34,424,000	67,381,000	37,495,000	61,300,000
1922	33,542,000	34,206,000	67,748,000	36,369,000	61,973,000
1923	33,966,000	31,777,000	65,743,000	37,266,000	71,466,000
1924	34,261,000	30,395,000	64,656,000	38,344,000	68,845,000
1925	34,673,000	28,789,000	63,462,000	39,843,000	58,228,000
1926	34,315,000	26,813,000	61,128,000	41,217,000	53,482,000

<sup>1</sup> Census figure adjusted to department total.

A study of the table and the corresponding chart, Figure 1, shows a rather remarkable unanimity in all the curves, including that of the population, until 1885, except the drop in cattle and swine at 1867, due to the Civil War. After 1885 the three livestock curves are characterized by considerable irregularity. The line of population definitely parted company with that of sheep in 1885; that of swine clung on, rather weakly, until 1892, while that of cattle continued its supremacy until 1895.

As previously explained, the cattle have been subdivided into the beef and dairy types, and it will be noted that the curve of dairy cattle is far more regular than any other, except the population. It is interesting to note, also, that beef cattle have exceeded dairy cattle in number from the beginning until 1912. Beef cattle also predominated during the war and postwar years 1917 to 1922, inclusive. Since then the steady increase in the consumption of dairy products has brought about a preponderance of dairy animals.

The relative positions of the curves at present show a gradually decreasing number of animals per capita. It should be said, however, that so far this tendency seems to have been balanced to a considerable extent by more rapid turnover and increased efficiency in other ways. The conditions recently surrounding the livestock industry show greater stability compared with the vicissitudes which followed the World War.

Stability and continued prosperity in the industry depend largely upon the attitude of the general public as consumers. The business

of marketing the products of food animals is highly specialized, and there are many complications in the intermediate stages between producer and consumer.

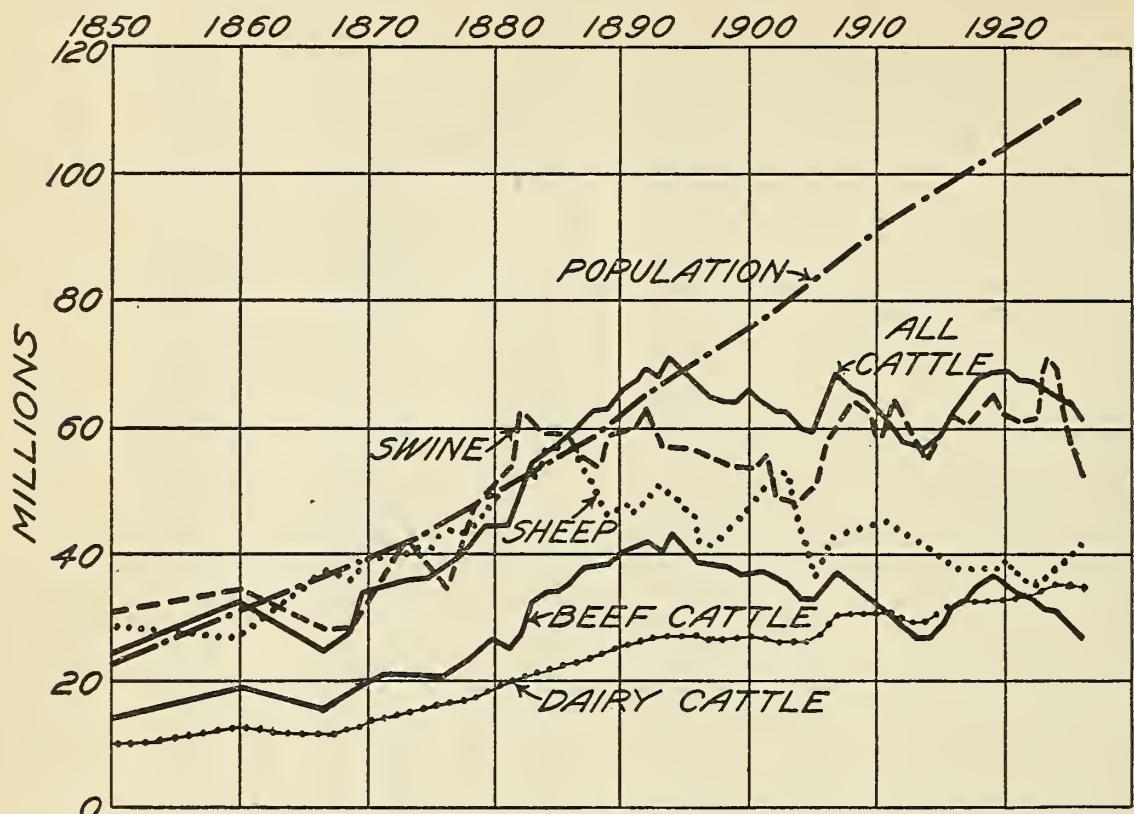


FIG. 1.—Trend of human and livestock population, 1850-1926

The consumption of mutton and lamb is shown later (Table 11) to have been less than 6 pounds per head of the population in recent years. Even if this quantity were doubled it would still be less than

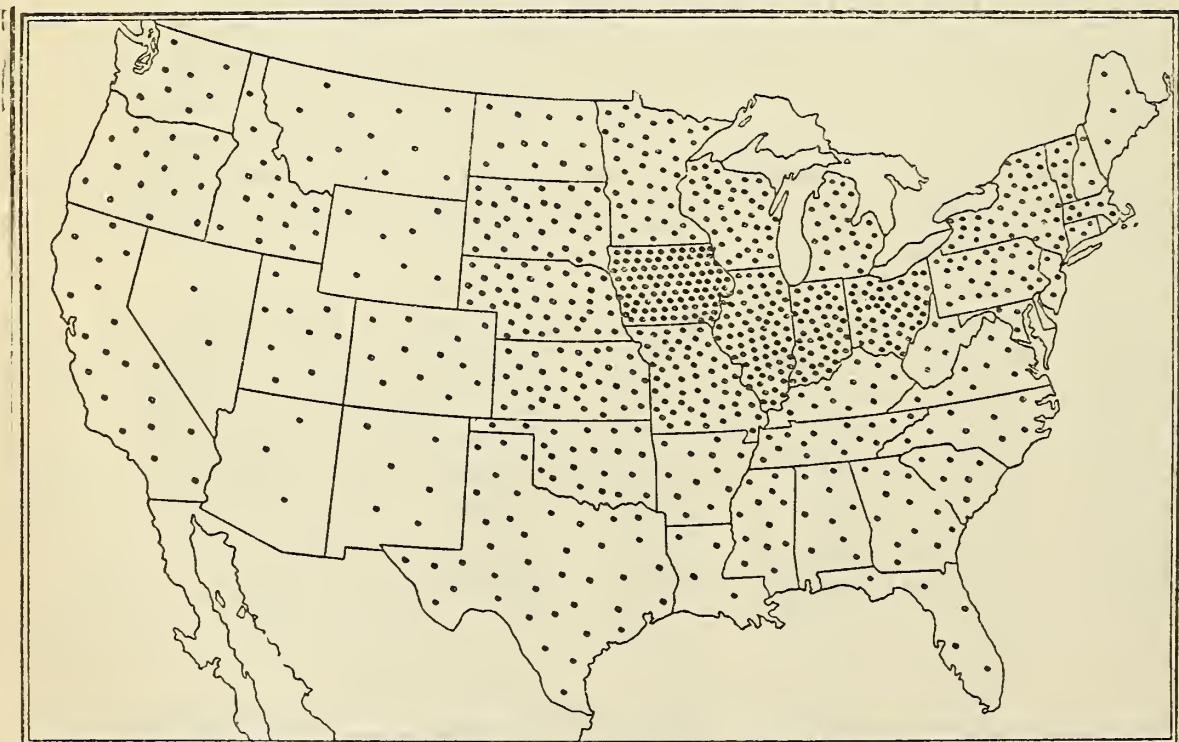


FIG. 2.—Distribution of registered purebred cattle, sheep, and swine, 1920. 1 dot=5,000 purebreds

half the consumption of this class of meat in Great Britain. (See Table 12.) Of course, any decided increase would necessarily be a gradual process. In this connection it may be mentioned that the

department, through the Animal Husbandry Division of the Bureau of Animal Industry, has for some time been assisting in the development of a type of sheep that will yield a high quality, as well as quantity, of both meat and wool.

### PUREBRED FOOD ANIMALS IN THE UNITED STATES, 1920

A very interesting and valuable addition to our knowledge of farm livestock was ascertained for the first time at the agricultural census for 1920, namely, the numbers of the registered purebred animals on each farm. An arrangement of the census figures is given in Table 2, showing the number of registered purebreds reported for each State in order of priority from the standpoint of total purebreds in the State. Table 3 gives the totals for each breed in order of precedence for each class of stock. The map (fig. 2) shows the geographical location of the animals by the distribution in each State.

TABLE 2.—Number of registered purebred cattle, sheep, and swine on farms and per cent of total purebreds in each State, January 1, 1920

State	Number of registered purebred—			Total registered purebreds	
	Cattle	Sheep	Swine	Number	Per cent
United States.....	1,981,514	463,504	2,049,900	4,494,918	100.0
Iowa.....	171,645	19,522	289,042	480,209	10.7
Illinois.....	109,996	13,300	215,965	339,261	7.5
Missouri.....	102,939	15,383	148,811	267,133	5.9
Ohio.....	96,384	39,444	96,908	232,736	5.2
Indiana.....	50,624	9,282	159,696	219,602	4.9
Texas.....	113,107	17,119	70,853	201,079	4.5
Wisconsin.....	137,527	10,660	52,237	200,424	4.5
Nebraska.....	82,047	3,448	112,502	197,997	4.4
Minnesota.....	88,696	8,729	99,443	196,868	4.4
New York.....	155,185	18,338	19,230	192,753	4.3
Kansas.....	97,723	4,565	65,870	168,158	3.7
South Dakota.....	62,348	6,487	91,853	160,688	3.6
Pennsylvania.....	81,290	15,781	34,775	131,846	2.9
Michigan.....	62,800	21,342	33,527	117,669	2.6
Oklahoma.....	48,252	2,942	53,888	105,082	2.3
California.....	32,388	28,831	35,741	96,960	2.2
Oregon.....	24,712	38,738	11,617	75,067	1.7
Tennessee.....	24,666	2,694	47,571	74,931	1.7
Idaho.....	19,376	47,107	7,299	73,782	1.6
North Dakota.....	33,821	4,989	22,076	60,886	1.4
Georgia.....	13,124	420	46,760	60,304	1.3
Arkansas.....	13,486	799	46,006	60,291	1.3
Colorado.....	33,610	7,982	17,951	59,543	1.3
Mississippi.....	16,001	481	42,923	59,405	1.3
Kentucky.....	19,693	5,549	33,619	58,861	1.3
Montana.....	22,994	24,208	5,351	52,553	1.2
Utah.....	13,856	30,013	2,492	46,361	1.0
Alabama.....	10,633	323	32,397	43,353	1.0
Virginia.....	17,777	3,785	20,867	42,429	1.0
North Carolina.....	10,782	1,207	27,374	39,363	.9
Washington.....	18,560	8,950	10,006	37,516	.8
Vermont.....	29,758	3,035	2,111	34,904	.8
Wyoming.....	17,530	15,612	1,498	34,640	.8
New Mexico.....	18,727	10,478	3,245	32,450	.7
South Carolina.....	6,864	192	21,282	28,338	.6
Massachusetts.....	19,993	1,245	6,533	27,771	.6
West Virginia.....	12,485	5,424	7,820	25,729	.6
Maine.....	18,202	2,361	2,913	23,476	.5
Florida.....	4,338	99	18,638	23,075	.4
Louisiana.....	6,498	194	11,675	18,367	.4
New Jersey.....	11,631	1,122	4,622	17,375	.4
Maryland.....	9,588	1,092	5,860	16,540	.4
New Hampshire.....	12,656	739	2,099	15,494	.3
Connecticut.....	10,961	841	3,366	15,168	.3
Arizona.....	8,455	2,205	1,914	12,574	.3
Nevada.....	4,174	6,342	449	10,965	.2
Delaware.....	1,707	12	653	2,372	.1
Rhode Island.....	1,719	93	513	2,325	.1
District of Columbia.....		186	59	245	

TABLE 3.—Number of registered purebred food animals on farms in United States January 1, 1920, by breeds and classes

## CATTLE

Beef:		Dairy:	
Shorthorn	416, 995	Holstein-Friesian	528, 621
Hereford	405, 582	Jersey	231, 834
Aberdeen-Angus	108, 524	Guernsey	79, 446
Polled Durham (Shorthorn)	61, 764	Ayrshire	30, 509
Galloway	7, 225	Brown Swiss	8, 283
Devon	1, 413	Not specified	37, 909
Not specified	63, 409		
Total	1, 064, 912	Total	916, 692

## SHEEP

Shropshire	124, 454	Southdown	8, 451
Rambouillet	106, 849	Cheviot	3, 000
Merino	59, 920	Suffolk	805
Hampshire Down	51, 813	Leicester	767
Oxford	16, 601	Not specified	68, 483
Lincoln	13, 903		
Dorset Horn	8, 458	Total	463, 504

## SWINE

Duroc-Jersey	819, 117	Yorkshire	6, 353
Poland China	726, 504	Tamworth	5, 639
Chester White	191, 207	Essex	3, 575
Hampshire	106, 978	Not specified	56, 148
Berkshire	86, 676		
Spotted Poland China	47, 703	Total	2, 049, 900

Iowa holds first place in numbers of purebreds, as it does in total animals, including all grades. More than 10 per cent of all the registered cattle, sheep, and swine in the country are in that State. It is easily first in cattle and swine, but the great sheep States are farther west, and Idaho has the largest number of purebred sheep. Ohio is second in purebred sheep and in this respect is far in the lead of all other States east of the Mississippi. In total purebreds Illinois comes second to Iowa, and Missouri third, these three States having close to one-fourth of the country's total.

In considering the purebred animals of the country as a whole, it should be remembered that there are large numbers of purebreds which are not registered. Many breeders and feeders use purebred animals for strictly utility purposes and thus save the registration fees. Unregistered purebred swine are especially numerous. Inquiries by the Bureau of Animal Industry among swine owners and breed associations indicate that possibly 75 per cent of purebred swine are not registered.

## MONTHLY RATIOS OF BIRTHS AND SLAUGHTER OF FOOD ANIMALS

Table 4 and Figures 3 and 4 show the seasonal relation between births and slaughter of food animals in the United States. The birth ratios were ascertained in an investigation conducted a few years ago by the then Bureau of Crop Estimates; so also was the farm slaughter of swine, which is the only class of farm slaughter available by months. Federally inspected slaughter is reported monthly for all classes of animals by the Bureau of Animal Industry, and the ratios have been computed from the monthly averages for the last 10 years. The figures in the tables show just how the accessions and depletions in each class of stock compare with each other at the end of each month in a normal year.

TABLE 4.—*Monthly ratios of births and slaughter of cattle, sheep, and swine in United States*

Month	Cattle						Sheep			
	Births		Slaughter (U. S. inspected)				Births		Slaughter (U. S. inspected)	
			Cattle		Calves					
Per cent	Cumulative	Per cent	Cumulative	Per cent	Cumulative	Per cent	Cumulative	Per cent	Cumulative	Per cent
January	4.9	4.9	8.7	8.7	6.7	6.7	3.5	3.5	8.7	8.7
February	7.2	12.1	6.9	15.6	5.9	12.6	10.1	13.6	7.4	16.1
March	14.6	26.7	7.1	22.7	8.0	20.6	20.8	34.4	7.7	23.8
April	19.0	45.7	6.9	29.6	10.0	30.6	27.0	61.4	6.7	30.5
May	16.0	61.7	7.3	36.9	10.5	41.1	28.5	89.9	6.8	37.3
June	8.8	70.5	7.5	44.4	9.7	50.8	6.8	96.7	7.4	44.7
July	4.6	75.1	7.9	52.3	9.1	59.9	.9	97.6	8.2	52.9
August	4.0	79.1	8.5	60.8	8.2	68.1	.4	98.0	8.9	61.8
September	6.2	85.3	9.3	70.1	8.3	76.4	.5	98.5	9.9	71.7
October	6.1	91.4	10.6	80.7	8.8	85.2	.5	99.0	9.9	81.6
November	4.9	96.3	10.1	90.8	7.9	93.1	.4	99.4	9.5	91.1
December	3.7	100.0	9.2	100.0	6.9	100.0	.6	100.0	8.9	100.0
	100.0	-----	100.0	-----	100.0	-----	100.0	-----	100.0	-----

Month	Swine							
	Births		Slaughter				Total (U. S. inspected and farm)	
			U. S. inspected		Farm			
Per cent	Cumulative	Per cent	Cumulative	Per cent	Cumulative	Per cent	Cumulative	Per cent
January	3.6	3.6	12.3	12.3	20.3	20.3	14.9	14.9
February	6.2	9.8	9.6	21.9	10.3	30.6	9.8	24.7
March	16.0	25.8	8.3	30.2	5.0	35.6	7.2	31.9
April	21.6	47.4	7.3	37.5	1.6	37.2	5.4	37.3
May	15.2	62.6	8.5	46.0	.7	37.9	5.9	43.2
June	7.2	69.8	8.6	54.6	.4	38.3	5.9	49.1
July	3.8	73.6	6.8	61.4	.3	38.6	4.7	53.8
August	4.4	78.0	5.5	66.9	.5	39.1	4.0	57.8
September	9.1	87.1	5.2	72.1	2.4	41.5	4.3	62.1
October	6.5	93.6	7.2	79.3	6.9	48.4	7.1	69.2
November	3.8	97.4	9.1	88.4	19.5	67.9	12.5	81.7
December	2.6	100.0	11.6	100.0	32.1	100.0	18.3	100.0
	100.0	-----	100.0	-----	100.0	-----	100.0	-----

## CATTLE BIRTHS MORE UNIFORM THAN OTHERS

As is well known, the great majority of all kinds of farm animals are born during the spring months. The chart shows that more cattle and swine are born in April than in any other month. A high percentage of sheep is also born in April, but still more in May.

The cattle-birth curve is more uniform than that of sheep or swine. There is, of course, a sharp rise during March, April, and May and a lesser one during September and October, but the greater increase of dairy cattle in recent years would tend to raise the proportion of calves born in the fall.

Similar characteristics apply in the case of pigs, except that both the spring and fall peaks are higher, especially the one in September. The figures show 52.8 per cent of all pigs to be born in the three spring months, while 9.1 per cent, or one-eleventh of the total, are born in September.

Lambs are decidedly a spring product. The investigation showed that 76.3 per cent of all lambs were born in the three months, March to May, inclusive. In the first six months 96.7 per cent of the lambs were dropped, leaving only 3.3 per cent during the last six months of the year. In this connection it may be mentioned that the returns to the department for sheep, especially range sheep, were less complete than those for other animals. It is known, however,

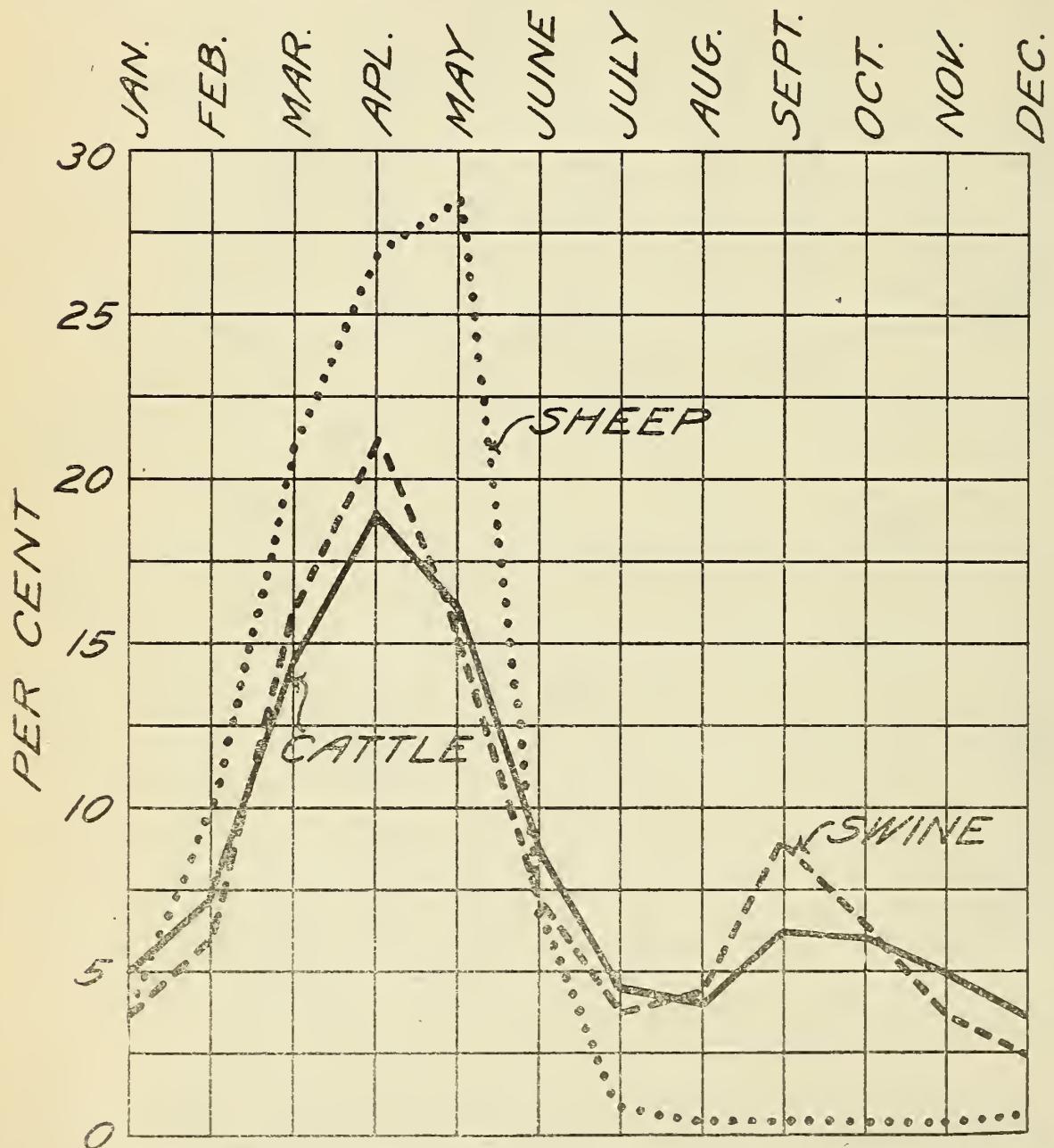


FIG. 3.—Monthly ratios of births, showing spring and fall peaks. Compare with Figure 4, showing rates of slaughter

that the only areas where any large number of lambs are born in the second half of the year are California and Arizona.

#### SWINE SLAUGHTER DROPS HEAVILY IN SUMMER

Since quantities of meat are consumed every day in the year, there is necessarily much more uniformity in monthly slaughter of animals than in births. Nevertheless there are seasonal differences, notably in the case of swine.

The high period for beef slaughter is in the fall, October and November, each having more than 10 per cent of the year's total.

With calves the case is reversed, the greatest marketings occurring in April and May.

Considerably more sheep and lambs are marketed in the latter half of the year than in the first six months, September and October being the heaviest months. The slaughter throughout the year, however, runs quite uniformly with that of cattle. The slaughter curves of calves and swine, on the other hand, vary widely. The curve for swine includes the farm kill, which accounts for the great variation between the winter and summer months. The commercial slaughter is also considerably heavier in winter than in summer, as may be seen in Table 4.

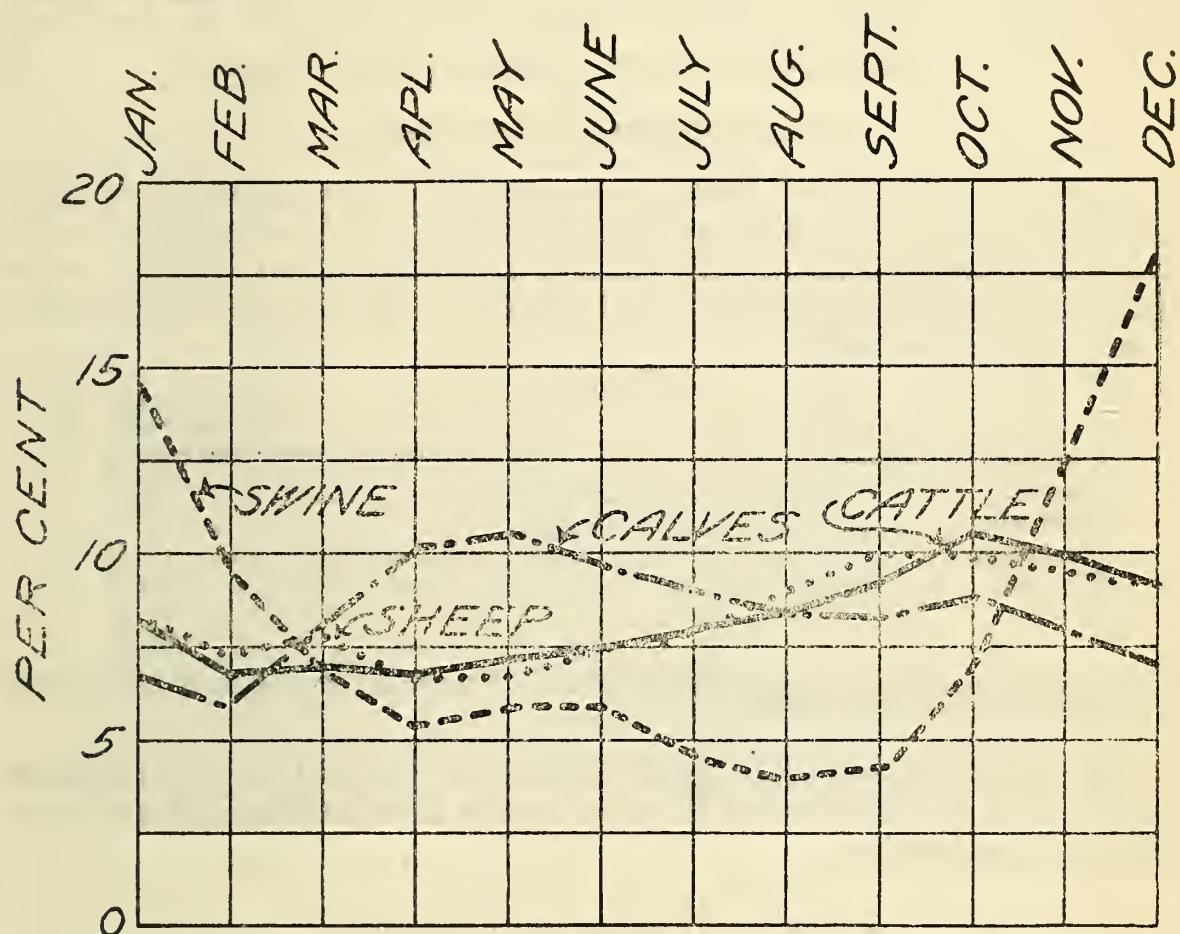


FIG. 4.—Monthly ratios of slaughter

The farm kill forms a large proportion of the total hog slaughter of the country. At the time of the last census, which covered the year 1919, it was 25 and a fraction per cent of the total, but since then it has probably declined appreciably. Farmers do the bulk of their hog killing in the early winter. Almost three-fourths of the total occurs during three months—November, December, and January—and nearly one-third of the total occurs in the single month of December. It is an interesting fact that when this study was made more hogs were killed on farms in December than in all the packing houses and other places where the Federal meat inspection is in operation.

#### DRESSED-MEAT YIELDS OF CATTLE, SHEEP, AND SWINE

The figures in Table 5 and accompanying chart (fig. 5), showing average dressing yields of representative market grades of cattle, sheep, and swine, have been compiled from numerous sources, including the carcass competitions at the International Livestock Expo-

sition at Chicago and the latest (1923) census of the wholesale slaughter and packing industry. K. F. Warner, of the Animal Husbandry Division of the Bureau of Animal Industry, who supervises the abattoir operations at the bureau's farm at Beltsville, Md., has records of a large number of slaughter tests, and is in possession of similar material from the Bureau of Agricultural Economics as well as from the principal packing firms of the country. The percentages in the table representing good, medium, and common grades of the various animals are furnished by Mr. Warner. It is believed that the figures are a true measure of the difference between these grades of livestock when each has had about an equal chance in the feed lot. The table, of course, shows only differences in weight; the effect of quality will be considered in the discussion which follows.

#### RELATIVE SIZE OF MARKET GRADES

It may be of interest first to approximate the quantity of each grade of animals actually marketed during a year's operations. We have this information for the principal grades of cattle only as a result of an investigation by the Bureau of Agricultural Economics covering the year 1920.

##### *Cattle (steers)*

	Per cent of total marketed
Choice and prime-----	4.5
Good-----	22.0
Medium-----	53.0
Common-----	17.0
Canners-----	3.5
	<b>100.0</b>

NOTE.—Further information on this subject is given in Department of Agriculture Bulletin 1360, Market Classes and Grades of Livestock.

It should be stated that these figures are subject to some change from year to year, owing to fluctuations in market demand and conditions of production.

TABLE 5.—*Dressing yields of livestock*

Grade	Per cent of live weight	Grade	Per cent of live weight
<b>CATTLE</b>			
International Show 2-year-olds-----	66.0	SHEEP AND LAMBS—continued	
International Show yearlings-----	64.4	Market ewes, good-----	52.0
Market steers, good-----	58.0	Market ewes, medium-----	45.0
Market steers, medium-----	55.0	Market ewes, common-----	42.0
Market steers, common-----	52.0	Market sheep and lambs, average (census, 1923)-----	48.6
Market cows and heifers, good-----	56.0	<b>SWINE</b>	
Market cows and heifers, medium-----	50.0	International Show hogs, 300 pounds up-----	85.3
Market cows and heifers, common-----	48.0	International Show hogs, 200-300 pounds-----	83.3
Market cattle, average (census, 1923)-----	53.2	Market sows, 250 pounds up, good-----	81.0
<b>SHEEP AND LAMBS</b>		Market sows, 250 pounds up, medium-----	77.0
International Show wethers-----	58.3	Market sows, 250 pounds up, common-----	75.0
International Show lambs-----	55.3	Market hogs, 180-225 pounds, good-----	79.0
Market lambs, good-----	52.0	Market hogs, 180-225 pounds, medium-----	76.0
Market lambs, medium-----	48.0	Market hogs, 180-225 pounds, common-----	75.0
Market lambs, common-----	45.0	Market hogs, average (census, 1923)-----	74.7

NOTE.—The International Show animals in each case are chiefly purebreds, and they were specially fed to produce ideal carcasses.

## CATTLE SPREAD IS GREATEST

Having regard only to the spread between the best and poorest grades of the animals shown in the table, we find this to be somewhat greater with cattle than with sheep, and least of all with swine. It may be pointed out, too, that there is a still lower grade of cattle, the "canner," that is not on the list. Therefore, as the question of dressing yields of livestock is largely one of breeding as well as feeding, it seems evident that there is a greater disparity in the breeding of market cattle than is the case with other stock.

The difference in dressing yield between a "good" and a "common" steer, according to the table, is 6 per cent. For a 1,000-pound steer

DRESSED MEAT AND OFFAL IN EACH 100 POUNDS LIVE WEIGHT OF CATTLE, SHEEP, AND SWINE

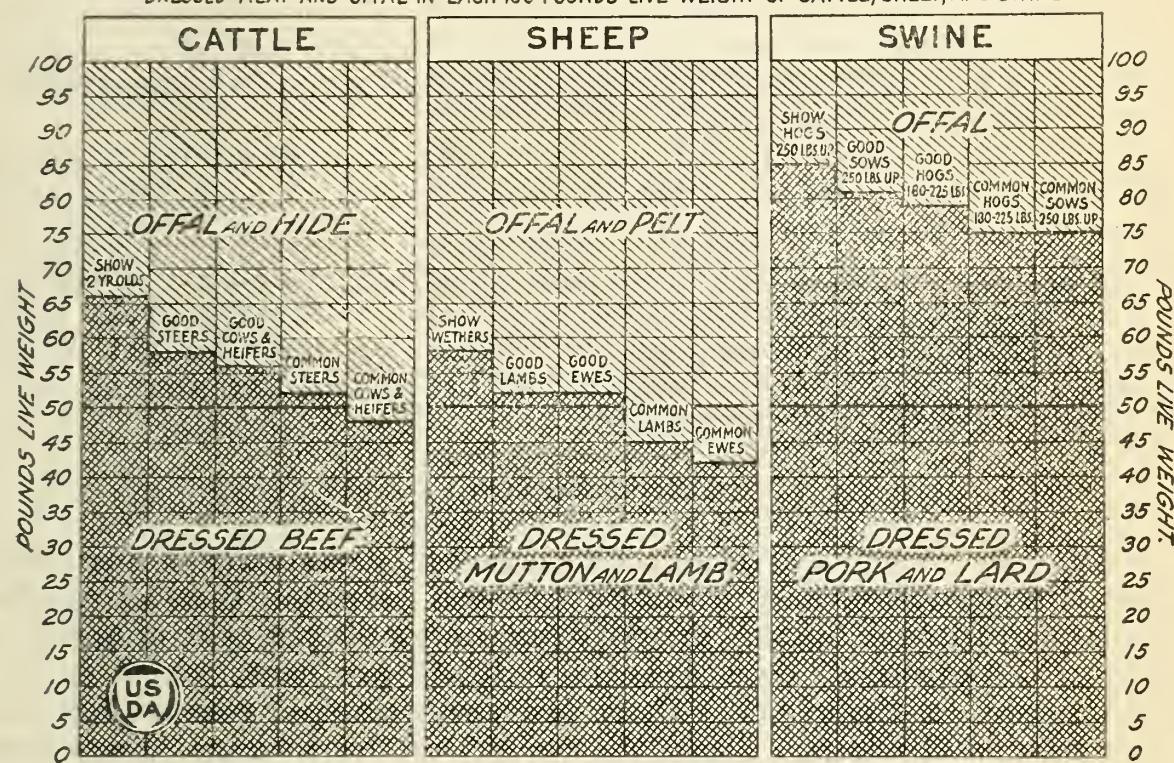


FIG. 5.—Average dressing percentages of cattle, sheep, and swine, showing the superiority, from a meat standpoint, of well-bred livestock

this would mean 60 pounds more of marketable meat. Nor is this all, since the meat of the higher-class animal is superior in quality throughout, as well as being better distributed among the choicer cuts. In other words, the higher-class steer makes a more profitable use of his feed than the inferior one. These things are taken strictly into account by the experts who price the animals in the stockyards; they are, indeed, the factors that determine the market value of one class as compared with another.

What happens when two such steers are sold in the open market is of interest. Assume, therefore, a "good" and a "common" steer, each weighing 1,000 pounds, and marketed at Chicago during the

week of July 12-17, 1926. The result of the sale would have been as follows:

	"Good" steer	"Common" steer
Weight at market (pounds).....	1,000	1,000
Selling price per 100 pounds <sup>1</sup> .....	\$9.87	\$7.21
Sale value of steer.....	\$98.70	\$72.10
Increased value of "good" steer.....	\$26.60	-----
Per cent of increase.....	36.9	-----

<sup>1</sup> Market prices from *Crops and Markets*, July 24, 1926, p. 52.

Considering the early maturing qualities of the better-bred beef cattle, it may well be assumed in the above case that the common steer was a year older than the other, and so would have to be charged with an additional year's keep.

It is true, of course, that all cattle feeders throughout the country can not arbitrarily choose either their cattle or their feed. They are governed largely by the kind of cattle available and the feeds that can be used most advantageously in the particular locality. Furthermore, while some experienced feeders are able to make a profit with low-grade animals, this happens only when they have bought them cheaply, in which case the producer or breeder of the animals was probably a loser in the transaction.

#### SHEEP DRESS LOW

As a rule, sheep and lambs as marketed dress fully 5 per cent lower than similar grades in cattle. It will be noted that all grades of sheep and lambs below "good" dress under 50 per cent of the live weight. "Common" ewes average only 42 per cent, which is the lowest point on the chart. There are two principal reasons for the lower figures of sheep. First, the weight of the average sheep pelt is proportionately greater for the size of the animal than is the case with cattle hides. Second, the importance of wool in the sheep industry tends to make those marketed of the dual-purpose type, whereas a steer is raised with the sole object of furnishing as much meat as possible in the carcass.

The possibilities in the way of dressing yields by well-bred animals of the mutton type are indicated by the records of the International Show wethers and lambs. These records extend over a long series of years, and show that the dressing yield of the wethers averaged 58.3 per cent and that of the lambs 55.3 per cent.

#### HOG CARCASS IS ECONOMICAL

The dressed weight of swine is relatively much greater than that of other animals. The abdominal and chest cavities of the hog are smaller, and the head, lard, and skin remain on the carcass after it is dressed.

According to the table the best heavy hogs dress about 85 per cent of their live weight, while the poorer end of the market classes average as high as 75 per cent. It will be noted, too, that the spread

between the highest and lowest grades is much smaller than with either cattle or sheep. Thus there is both uniformity and quality in the average market hog.

The reason for this is fairly evident. It is well known that purebred swine, when those not registered are included, greatly outnumber the purebreds of other classes of farm animals. Hence there is little doubt that the qualities above mentioned in market swine are directly attributable to the higher breeding level of the farm hog.

#### MEAT PRODUCTION, CONSUMPTION, AND FOREIGN TRADE

Three kinds of slaughter reports are primarily concerned in the compilation of the meat tables which follow: (1) Total commercial slaughter of the United States for 1909, by the census (Manufactures Division). This was a special report and has not been repeated since that time. Combined with the farm slaughter, which is ascertained in the regular census of agriculture, it gave the entire slaughter of the United States for 1909. (2) The United States inspected slaughter, which is reported monthly and annually by the Bureau of Animal Industry, United States Department of Agriculture. Statistical data connected with this class of slaughter are also published monthly by the Bureau of Agricultural Economics. (3) The wholesale slaughter and packing industry of the United States, reported every five years by the census (Manufactures Division) from 1899 to 1919, and every two years since 1919. Each of the latter reports covers a year's operations.

Thus it is seen that the only kind of slaughter determined annually is the "U. S. inspected." It is reported very fully, but only in respect to the numbers of the animals slaughtered, not their weights. In order to estimate the noninspected slaughter, ratios are used which were established at the census of 1909, when all the different kinds of slaughter were definitely known. These ratios are subject to changes due to later census and other data, and the annual ratios of cattle and calf slaughter are specially estimated by a committee in the Animal Husbandry Division.

The estimates in the tables begin with the calendar year 1907, as that was the first full year the Federal inspection was in operation on its present scale. The animals are converted into meat by use of average carcass weights and average dressing percentages derived from packers' reports to the department, census reports, etc.

The data throughout are computed from a dressed-weight basis. The edible offal (liver, pluck, etc.) is not included in the dressed weights and so is disregarded. The dressed carcasses, it may be pointed out, contain inedible material in the form of bones and waste trimmings. Thus the figures in the tables represent approximately actual meat,<sup>2</sup> and, as such, are comparable with similar data published for other countries. Lard is estimated separately from the dressed weights of swine.

Spoilage of meat is allowed for so far as the condemnations under the Federal meat inspection are concerned. In computing consumption of meat the exports, before deduction, are converted into the dressed-weight equivalents in order to preserve a parity with the production columns. In this respect there is little change in the

<sup>2</sup> Data on edible offal of the various animals have been ascertained by the Bureau of Agricultural Economics and are published in the department Yearbooks.

fresh-meat items, but canned meats, for example, are estimated to have shrunk 50 per cent from the dressed weight. Allowance is also made for quantities of meat and lard in storage at beginning and end of each year as ascertained and reported by the Bureau of Agricultural Economics annually since 1916.

**ANNUAL SLAUGHTER OF FOOD ANIMALS, 1907-1925**

Table 6 gives the number of the various animals annually slaughtered under the United States inspection, also the estimated total number slaughtered, including those on farms. Figure 6 shows in graphic form the total slaughtered and the trend in relation to number slaughtered of each of the three species. The meat equivalents will be shown later.

TABLE 6.—*Number of animals slaughtered annually under Federal inspection and estimated total number slaughtered (including farm) in United States, 1907-1925*

Calendar year	Cattle	Calves	Sheep and lambs	Goats	Swine
1907: United States inspected	7,633,365	2,024,387	10,252,070	56,750	32,885,377
Total	13,286,700	6,211,000	13,359,800	161,000	54,708,500
1908: United States inspected	7,279,260	1,958,273	10,304,666	42,981	38,643,101
Total	12,851,600	6,048,400	12,525,700	121,900	61,615,300
1909: United States inspected	7,713,807	2,189,017	11,342,637	100,659	31,394,896
Total (census)	13,611,422	6,515,976	14,724,699	285,553	53,219,568
1910: United States inspected	7,807,600	2,238,287	11,408,020	100,379	26,013,783
Total	13,540,600	6,552,600	14,797,000	284,800	47,075,600
1911: United States inspected	7,619,096	2,183,543	14,620,446	38,892	34,132,955
Total	12,958,100	6,264,500	18,056,800	110,300	56,646,100
1912: United States inspected	7,252,578	2,277,954	14,979,254	72,894	33,052,727
Total	11,979,000	6,348,000	19,247,300	206,800	55,564,200
1913: United States inspected	6,978,361	1,902,414	14,405,759	75,655	34,198,585
Total	11,477,600	5,284,500	18,520,200	214,600	57,046,400
1914: United States inspected	6,756,737	1,693,962	14,229,342	175,906	32,531,841
Total	11,004,500	4,661,400	18,289,800	499,000	55,500,700
1915: United States inspected	7,153,395	1,818,702	12,211,765	153,346	38,381,228
Total	10,822,100	4,639,500	15,755,500	435,000	62,017,300
1916: United States inspected	8,310,458	2,367,403	11,941,366	198,909	43,083,703
Total	12,026,700	5,773,900	15,407,500	564,300	67,613,000
1917: United States inspected	10,350,152	3,142,721	9,344,994	165,660	33,909,704
Total	13,728,900	7,030,700	12,148,700	470,000	56,900,800
1918: United States inspected	11,828,549	3,456,393	10,319,877	137,725	41,214,250
Total	15,750,400	7,513,900	13,359,300	390,100	64,796,200
1919: United States inspected	10,091,084	3,969,027	12,691,116	87,381	41,811,830
Total	14,838,200	8,445,000	16,317,400	247,500	65,190,300
1920: United States inspected	8,608,691	4,058,370	10,982,180	42,477	38,018,684
Total	13,885,000	8,455,400	14,179,500	120,500	61,899,900
1921: United States inspected	7,608,280	3,807,568	13,004,904	12,133	38,982,355
Total	12,271,300	7,770,600	16,710,000	34,400	62,957,000
1922: United States inspected	8,677,807	4,181,569	10,928,941	20,633	43,113,629
Total	13,148,200	8,363,100	14,112,000	58,400	68,105,500
1923: United States inspected	9,162,516	4,500,323	11,528,550	26,607	53,333,708
Total	13,882,600	8,824,200	14,862,400	75,400	79,843,400
1924: United States inspected	9,593,075	4,935,030	11,990,831	32,585	52,872,634
Total	14,399,700	9,466,300	15,441,000	92,300	79,630,800
1925: United States inspected	9,853,039	5,852,561	12,000,994	39,004	43,042,867
Total	14,706,000	10,099,200	15,453,900	110,500	68,294,300

NOTE.—United States inspection of horses at slaughter was commenced in September, 1919; the number inspected in 1925 was 26,400, and the average for the last three years was 12,602. A large part of this horse meat is exported.

A glance at Figure 6 shows that the cattle and sheep curves run together somewhat regularly throughout. The high tide in sheep marketing, from 1912 to 1915, was coincident with a depression in cattle slaughtering, so that during those years the sheep curve is slightly higher than that of cattle. The war conditions then promoted cattle feeding for meat production, while sheep were required to provide a maximum of wool.

Swine marketings are of course much more numerous than those of cattle or sheep, more so, in fact, than both combined. The uneven-

ness of the swine curve aptly illustrates the well-known corn-and-hog cycle which up to the present has been an undesirable feature of hog breeding in this country. The history of the industry shows that a period of cheap and abundant corn has invariably been followed by an overproduction of hogs with consequent low prices and losses. Then follows a swing to the opposite direction and underproduction occurs. It is unnecessary to say that these unfortunate recurrences present a difficult problem for the industry to cope with. The chart shows a remarkable recovery, however, in 1918 and 1919. This was not kept up in 1920 and 1921, largely because of the disastrous break in values during those years. Regarding the high points in the curve showing hog production, it may be noted that the war effort of 1916 has been exceeded only by the record-breaking totals from 1922 to 1924. Main factors in the latter were the surplus of corn, together with more favorable marketing conditions for hog raisers.

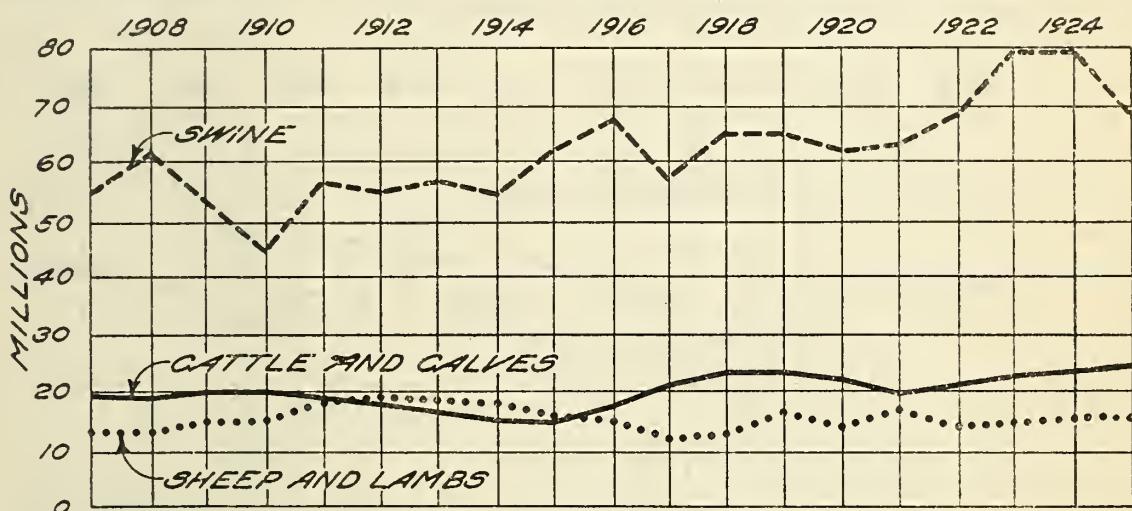


FIG. 6.—Total animals slaughtered, 1907-1925

## ANNUAL PRODUCTION OF MEATS AND LARD, 1907-1925

The quantities of dressed meat and lard annually resulting from the slaughter of animals are given in Table 7 and Figure 7.

TABLE 7.—*Estimated total production of dressed meats and lard in United States annually, 1907-1925*

[In millions of pounds]

Calendar year	Beef	Veal	Mutton and lamb	Pork (exclusive of lard)	Total dressed meat <sup>1</sup>	Lard
1907	7,193	644	560	6,622	15,025	1,649
1908	6,642	627	559	6,968	14,801	1,741
1909	7,041	683	603	6,024	14,362	1,504
1910	6,703	686	599	5,649	13,648	1,434
1911	6,466	656	732	6,596	14,454	1,673
1912	5,888	667	779	6,407	13,749	1,626
1913	5,881	487	731	6,622	13,729	1,681
1914	5,606	432	712	6,530	13,299	1,657
1915	5,779	427	622	6,971	13,816	1,775
1916	6,075	535	608	7,386	14,626	1,849
1917	6,641	661	473	6,139	13,932	1,557
1918	7,279	764	493	7,854	16,405	1,983
1919	6,758	803	603	7,832	16,006	2,039
1920	6,713	806	532	7,455	15,511	2,056
1921	6,163	747	626	7,645	15,182	2,114
1922	6,706	792	535	8,260	16,295	2,357
1923	6,873	870	571	9,595	17,912	2,783
1924	7,065	931	589	9,279	17,867	2,746
1925	7,146	1,001	599	8,255	17,005	2,223

<sup>1</sup> Includes a small quantity of goat meat.

Table 7 and the corresponding chart show a gradual decline in beef production from 1909 until the call of the late war spurred cattle raisers to a supreme effort. A steady rise of the beef curve from 1914 to the high peak of 1918 was the consequence. Since that year, however, there has been a decline of more than a billion pounds in the annual production, followed by a sharp recovery from 1922.

The curve showing pork production has two abnormally low points, the causes for which have been explained in the discussion of Table 6. Otherwise the war demands on swine raisers were met in even greater degree than was the case with cattlemen. It will be noted that pork production rose to unprecedented heights in 1923 and 1924.

A glance at the lines of mutton and veal shows the relative smallness of the quantity produced of each of these classes in comparison with pork and beef. From 1911 to 1916 mutton production was larger than that of veal, but since then there has been an increase in calf slaughter, due largely to dairy expansion.

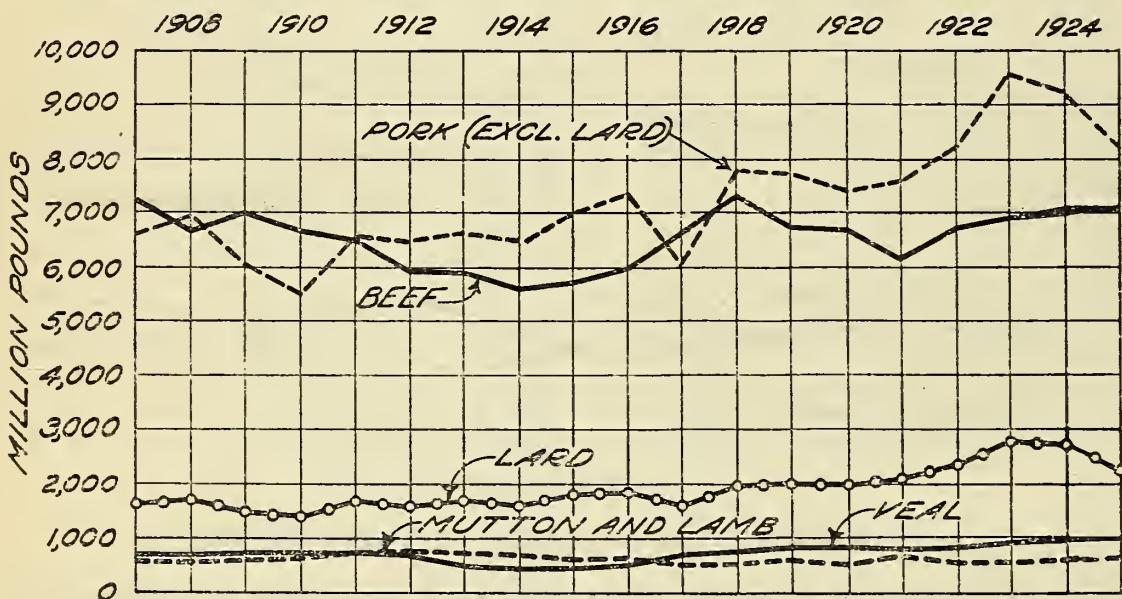


FIG. 7.—Total production of meats and lard, 1907-1925

The curve of lard production shows a steady supply at a high level since 1918, with a sharp increase from 1922 to 1924.

#### FOREIGN TRADE IN MEATS, LARD, AND ANIMALS, 1907-1925

Tables 8, 9, and 10, and Figure 8 illustrate the part played by meats, lard, and meat animals in our foreign trade. The export figures are taken from the December reports of the Department of Commerce, which give the calendar-year totals. The exports of meat and lard include the shipments to the noncontiguous Territories of Alaska, Hawaii, and Porto Rico. The imports are the net imports, after deducting the reexports, and the meat items are from the Bureau of Animal Industry meat-inspection records, which are in more detail than the commerce reports. Considerable quantities of unidentified meat products, canned and otherwise and including edible offal, appear in the commerce reports under the classification "All other." These can not be shown in the tables.

The exports of beef, pork (mostly bacon and hams), and lard have been large at all times, and during the war period were abnormally so, although they do not include the overseas supplies for the United States military and naval forces.

Imports of meats as a rule are comparatively unimportant, consisting mostly of European specialities, for which there is a demand among certain classes of consumers. Beef, however, has occasionally been imported in quantities. In 1920 an attempt was made to market New Zealand lamb in this country. About 100,000,000 pounds were imported with the result that a large portion failed to find a market and was reexported during that year and in 1921.

Regarding the trade in live animals, there was a period during the nineties and early in the present century when exports of beef cattle on the hoof were very important. In some years more than 500,000 high-class beeves were thus shipped, mostly to British ports, for immediate slaughter. Subsequently this live-cattle trade was displaced, largely because of the greater economy and convenience of shipping the beef in a refrigerated state. By 1914 all beef exports had given way to sources of cheaper supply in the Southern Hemisphere.

The imports of cattle, which are considerable, are mostly stocker and feeder animals brought over the Canadian and Mexican borders.

TABLE 8.—*Exports (domestic) of meats and lard from United States annually, 1907-1925*

[In millions of pounds]

Calendar year	Beef	Mutton and lamb	Pork (exclusive of lard)	Total meat	Lard
1907	354	2	615	971	594
1908	228	2	632	862	587
1909	164	2	485	651	462
1910	111	2	324	437	382
1911	91	3	470	564	610
1912	56	6	456	518	558
1913	45	5	468	518	581
1914	93	5	393	491	465
1915	387	9	913	1,309	494
1916	285	7	1,022	1,314	463
1917	365	4	941	1,310	388
1918	711	3	1,714	2,428	559
1919	287	4	1,878	2,169	789
1920	155	5	929	1,089	643
1921	52	8	759	819	903
1922	46	2	727	775	799
1923	42	3	960	1,005	1,075
1924	40	2	735	777	986
1925	39	4	549	592	719

TABLE 9.—*Imports<sup>1</sup> (less reexports) of meat into United States annually, 1913–1925*  
[In millions of pounds]

Calendar year	Beef	Veal	Mutton and lamb	Pork (exclusive of lard)	Total meat
1913 (6 months)-----	35			1	36
1914-----	253	5	18	31	307
1915-----	125	1	14	7	147
1916-----	23	1	14	2	40
1917-----	25	1	6	4	36
1918-----	125	1	1	4	131
1919-----	53	5	7	7	72
1920-----	43	8	<sup>2</sup> 62	3	116
1921-----	23	4	<sup>2</sup> 18	1	46
1922-----	32	5	11	1	49
1923-----	24	2	6	1	23
1924-----	21	4	2	7	34
1925-----	17	3	2	8	30

<sup>1</sup> Imports of meat were not separately enumerated until July 1, 1913. The figures in this table are from Bureau of Animal Industry records, which permit a more accurate classification than is given in the monthly summary of the Department of Commerce.

<sup>2</sup> Reexports of New Zealand lamb in 1921 have been adjusted by applying 40,000,000 pounds on the imports of the previous year (1920).

TABLE 10.—*Exports and imports of food animals (number), 1907–1925*

Calendar year	Exports (domestic)			Imports (less reexports)		
	Cattle	Sheep	Swine	Cattle	Sheep	Swine <sup>1</sup>
1907-----	401,583	121,197	23,783	6 <sup>2</sup> ,096	200,431	-----
1908-----	277,036	100,644	29,005	112,017	125,502	-----
1909-----	184,957	54,613	11,886	153,806	126,862	-----
1910-----	109,629	52,638	4,019	211,192	55,846	-----
1911-----	164,087	177,069	13,246	251,173	22,856	-----
1912-----	46,463	191,963	17,478	325,651	89,058	-----
1913-----	26,236	170,411	12,118	736,588	115,688	-----
1914-----	8,694	78,227	12,399	727,836	199,995	-----
1915-----	16,256	40,501	7,261	552,302	276,521	3,578
1916-----	12,171	55,059	28,301	295,067	125,720	2,402
1917-----	20,009	30,359	15,588	347,510	202,861	16,236
1918-----	17,280	7,962	10,308	352,568	150,053	7,467
1919-----	69,859	34,531	24,745	641,853	221,538	20,657
1920-----	85,302	48,878	55,250	377,397	172,841	1,096
1921-----	196,533	117,396	123,067	193,704	84,734	2,838
1922-----	111,207	17,172	77,761	237,116	95,332	3,223
1923-----	37,194	16,879	87,644	138,467	• 39,255	2,371
1924-----	60,959	18,546	82,846	143,309	30,384	29,070
1925-----	80,565	12,041	46,040	174,377	67,054	90,300

<sup>1</sup> Not separately enumerated until 1915.

Figure 8, showing the exports of meats and lard, is chiefly remarkable for the extraordinary bulge due to the war trade, which consists of the five-year period extending from 1915 to 1919. It may be noted that the beef curve begins to fall one year earlier than pork, the beef highest peak being in 1918 and that of pork in 1919. It is noticeable also that lard did not follow the upward trend of pork in the early years of the war. This was owing to the loss of trade with Germany and some other European countries which are normally large consumers. The revival of this trade caused lard exports to break all records in 1921 and again in 1923, when the total for the first time exceeded a billion pounds for the year.

An interesting comparison may be noted in respect to the curves of lard and of all meats combined. During the three pre-war years 1911 to 1913 the exports of lard slightly exceeded those of all meats.

The influence of the war then carried the meats to extraordinary heights while lard exports actually decreased until 1917. Following that year the meats curve dropped sharply, while that of lard rose steadily until in 1921 it again exceeded the meats and has since maintained that position.

PER CAPITA CONSUMPTION OF MEATS AND LARD, 1907-1925

The consumption of dressed meat per head of the population is shown in Table 11 and Figure 9. The per capita figures are derived by dividing the annual consumption totals of each kind of meat by the population of continental United States for July 1 of each year, as published by the census. The method of computing the total consumption is described on page 13.

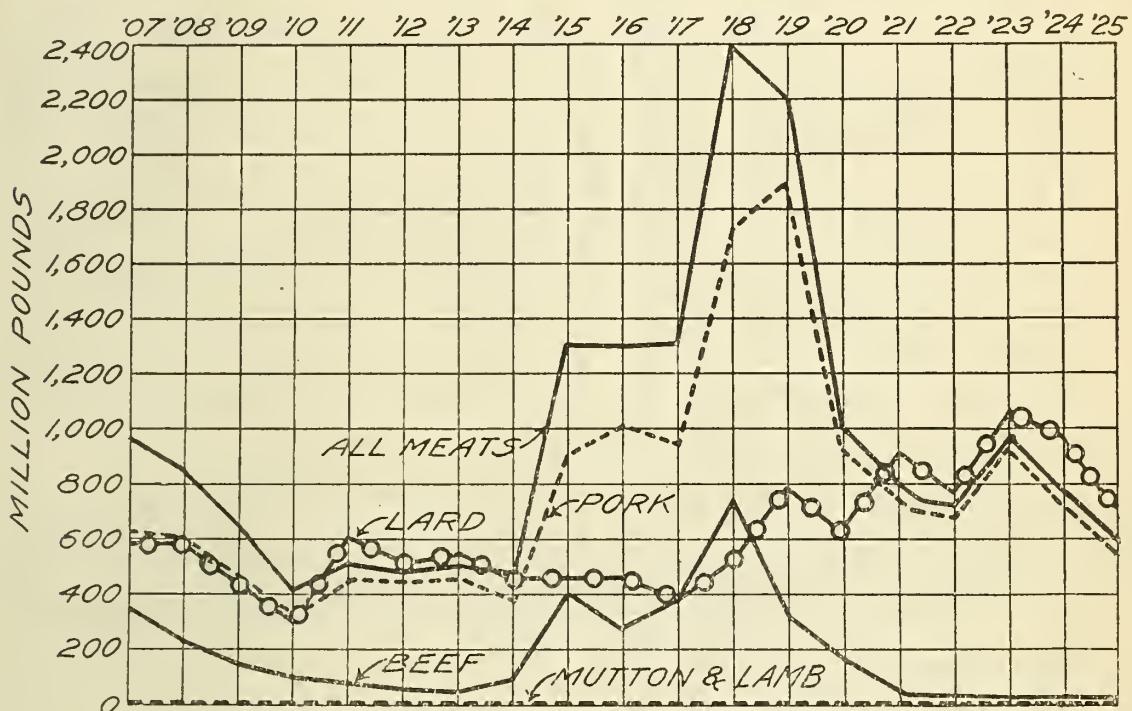


FIG. 8.—Exports of meats and lard, 1907-1925

TABLE 11.—*Per capita consumption of dressed meats and lard, 1907-1925*

[In pounds]

Kind	1907	1908	1909	1910	1911	1912	1913	1914	1915
Beef.....	77.5	71.5	75.4	71.1	67.7	61.1	60.6	58.4	54.5
Veal.....	7.4	7.0	7.5	7.4	7.0	7.0	5.0	4.4	4.3
Mutton and lamb.....	6.4	6.3	6.6	6.4	7.8	8.1	7.5	7.4	6.3
Pork (exclusive of lard).....	67.7	70.0	60.1	57.1	64.5	61.8	63.0	62.3	59.5
Goat.....	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.2
Total meat.....	159.1	154.9	149.8	142.2	147.1	138.1	136.2	132.7	124.8
Lard.....	12.1	12.9	11.5	11.4	11.3	11.2	11.4	12.2	12.9

Kind	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925
Beef.....	56.0	59.5	63.0	61.6	63.1	56.9	60.4	61.3	61.5	62.1
Veal.....	5.3	6.5	7.4	7.7	7.6	7.0	7.3	7.8	8.2	8.7
Mutton and lamb.....	6.1	4.6	4.7	5.8	5.5	5.9	5.0	5.2	5.2	5.2
Pork (exclusive of lard).....	60.1	49.3	54.8	54.8	60.5	63.5	66.1	74.7	74.7	67.6
Goat.....	0.2	0.2	0.2	0.1	0.1	-----	-----	-----	-----	-----
Total meat.....	127.7	120.1	130.1	130.0	136.8	133.3	138.8	149.0	149.6	143.6
Lard.....	13.6	11.7	13.3	12.3	13.3	11.3	14.2	15.3	15.4	13.2

The total quantity of meat consumed year by year as a rule has shown only a limited variation. The population, however, has steadily increased and there has been, therefore, a considerable decline in the per capita consumption, especially during the war period and up to and including 1921. Table 11 and Figure 9 show that the consumption in that year was fully 25 pounds per head lower than it was in 1907. The greater purchasing power of the people of the United States in recent years is strongly evidenced by a rise of about 6 pounds per head in the consumption of 1922, and by the ready absorption of the enormous pork supplies in 1923 and 1924.

The year of highest consumption per head in the table is 1907, with a total of 159.1 pounds, and the lowest was 1917, with 120.1 pounds. It will be recalled, however, that 1917 was a year of re-

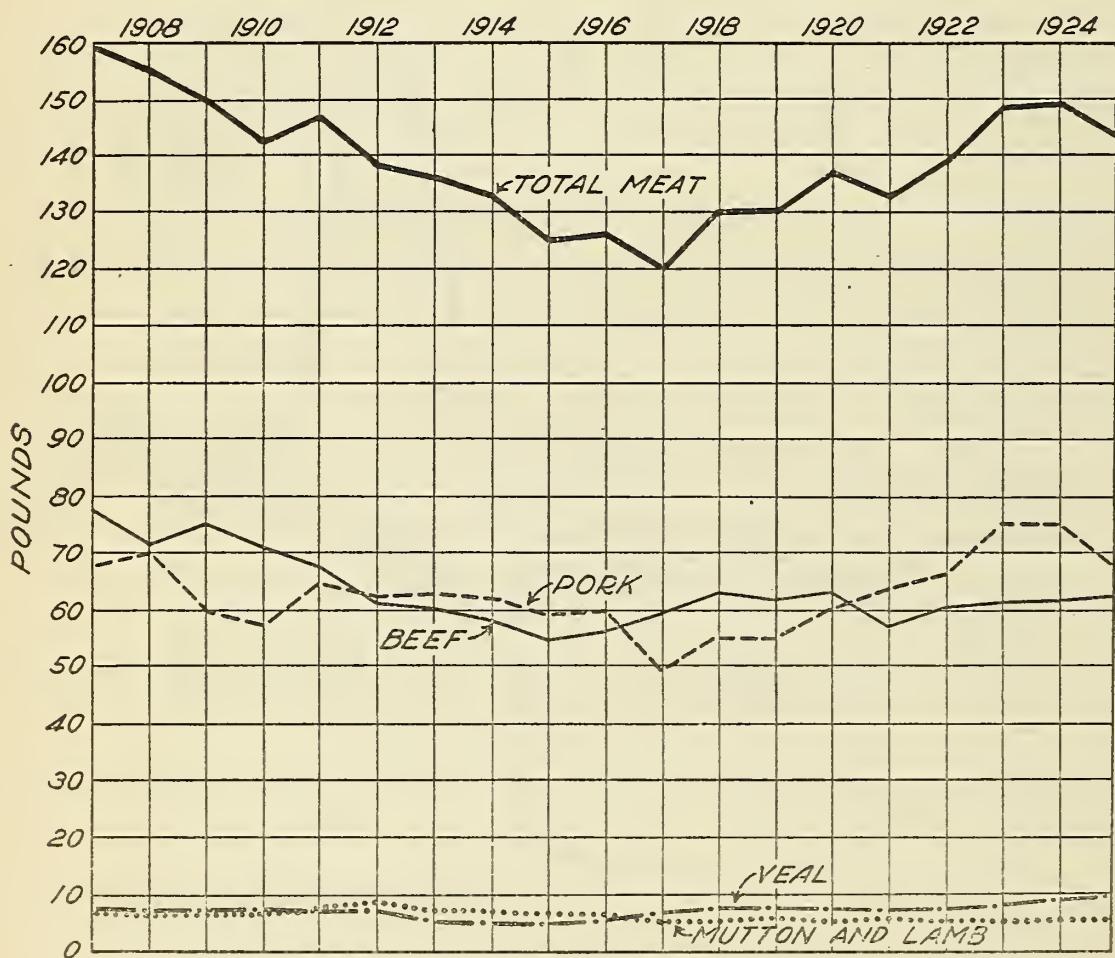


FIG. 9.—Per capita consumption of meats, 1907-1925

stricted marketing, especially of sheep and swine, as well as of "meatless days" to conserve a short supply for war needs. Regarding the high figure of 1907, it may be noted that it occurred at a time when meat was relatively more plentiful and cheap than in recent times.

#### PER CAPITA CONSUMPTION IN VARIOUS COUNTRIES

For comparison with the United States totals Table 12 is given, showing meat consumption in such other countries as there are estimates available for. Very little recent data of this kind have been published, however, because of the unsettled conditions following the war. The figures in most cases cover pre-war periods and are given as an approximation of the normal yearly consumption in the

various countries. Meat-consumption data for Great Britain and Germany have been published frequently and the figures in the table are averages for a series of years. The estimates for most countries are as published in Report 109, United States Department of Agriculture, Meat Situation in the United States, issued in 1916.

TABLE 12.—*Per capita consumption of meat (in pounds) in specified countries*

Country	Total meat	Beef and veal	Mutton and lamb	Pork	Other meat
Argentina	281	240	28	13	
Australia (1902)	262.6				
New Zealand (1902)	212.5				
Canada (1922)	165.4	76.2	10.2	79	
United States (average, 1920-1925)	141.8	68.7	5.3	67.8	
Cuba (1906)	124				
United Kingdom (average, 1919, 1921)	120.4	64.6	25.8	30	
Germany (average, 1904-1913)	115	41.5	2.2	69.4	1.9
France (1904)	80	43	9	27	1
Denmark (1902)	76				
Switzerland (1899)	75				
Belgium (1902)	70				
Netherlands (1902)	70				
Greece (1899)	68				
Austria-Hungary (1890)	64				
Norway (1902)	62				
Sweden (1902)	62				
Poland (1899)	62				
Spain (1924)	60.2	20.7	11.1	25.9	2.5
Russia (1899)	50				
Italy (1901)	46				

It will be noted that there are four countries only which have a consumption per head of the population greater than that of the United States, and in every case these are countries of sparse population and large surpluses of cattle and sheep. Argentina, Australia, and New Zealand are now the great sources of the world's surplus of beef and mutton. Consequently in such countries these products are abundant and cheap, to say nothing of the probable waste in their use, which would add further to the quantity reported for home consumption.

The estimate for Argentina appeared in an article in the official monthly bulletin of the Argentine Department of Agriculture for March, 1914. As it is the highest meat-consuming country in the list, a brief outline of the method of making the estimate may be of interest. The total cattle and sheep slaughtered were first ascertained by taking the number of hides and skins reported during the year to be used in the country and exported. After certain deductions and allowances for meat exports, dead animals, etc., it is calculated that 4,292,841 head of cattle (including 25 per cent of calves) were consumed in Argentina. An average weight of 225 kilograms (496 pounds) is allowed for these animals, which, divided by an assumed population of 8,000,000, gives the per capita of beef and veal as 121 kilograms (266½ pounds). A similar calculation with sheep makes the per capita of mutton 12 kilograms (26½ pounds). The author then quotes the per capita consumption of beef, mutton, and pork at the capital (Buenos Aires), previously ascertained, and these totals are adopted as the estimate for the whole of Argentina, although it may be noted that the figure for

beef is  $26\frac{1}{2}$  pounds less than the one first calculated. It may be stated also that published statistics show the per capita consumption in large cities to be in general considerably greater than for a whole country, which would indicate that the figures for Argentina are probably higher than is actually the case.

In six of the countries in the table the data include the proportion consumed of each kind of meat. These figures indicate that (1) the people of Argentina consume the most beef; (2) the British meat dietary has the closest balance of beef, mutton, and pork, and by far the largest proportion of mutton; and (3) the Germans are, proportionately, the largest pork consumers, although more pork products are consumed per capita in Canada.

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November 17, 1926

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